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NOV 1862

A.D. 1862. Nov. 18. Nº3101.
BECK'S SPECIFICATION.
Optical Lenses.

BINOCULAR

1862

FIG. 1.

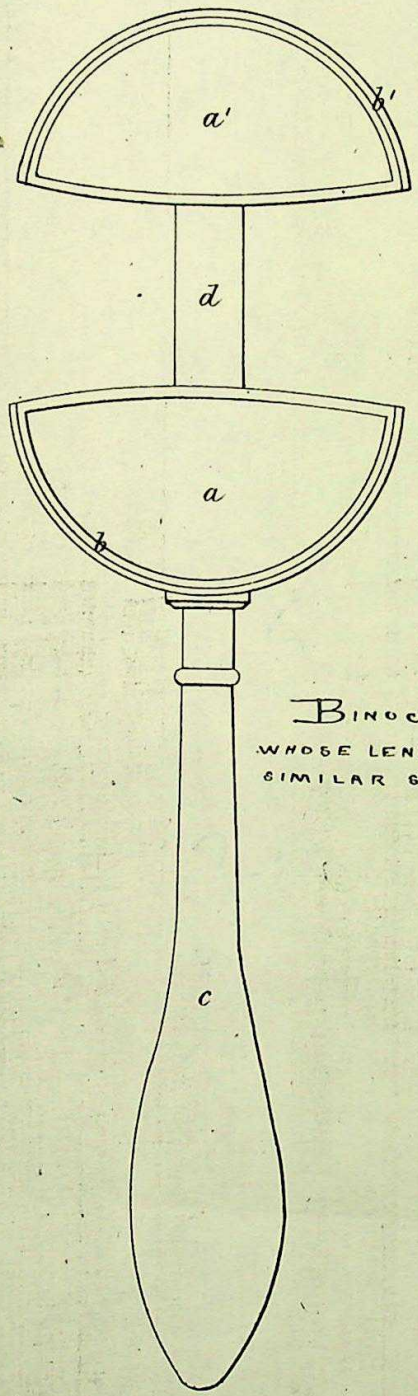


FIG. 2.

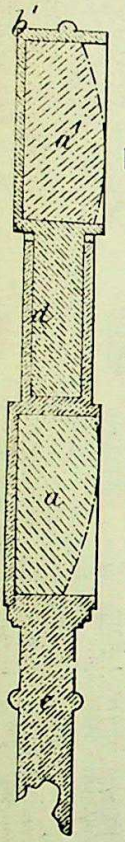
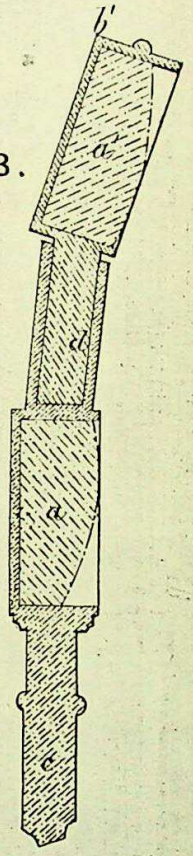


FIG. 3.



BINOCULAR READING GLASS WHOSE LENS IS FORMED OF TWO SIMILAR SEPARATED MEMBERS.

359/480

88. OPTICS,
Lenses.

A.D. 1862, 18th NOVEMBER. N° 3101.

Reading Glasses, &c.

LETTERS PATENT to Richard Beck, of Peartree Cottage, Upper Holloway, in the County of Middlesex, for the Invention of "IMPROVEMENTS IN READING GLASSES AND MAGNIFIERS, TO BE SIMULTANEOUSLY USED WITH BOTH EYES."

Sealed the 24th March 1863, and dated the 18th November 1862.

PROVISIONAL SPECIFICATION left by the said Richard Beck at the Office of the Commissioners of Patents, with his Petition, on the 18th November 1862.

I, RICHARD BECK, of Peartree Cottage, Upper Holloway, in the County of Middlesex, do hereby declare the nature of the Invention for "IMPROVEMENTS IN READING GLASSES AND MAGNIFIERS, TO BE SIMULTANEOUSLY USED WITH BOTH EYES," to be as follows:—

This Invention has for its object improvements in reading glasses and magnifiers, to be simultaneously used with both eyes.

Heretofore lenses have frequently been made of such a size that a person can see through them with both eyes simultaneously; but these are massive and expensive. Spectacles have also been made with lenses of considerable magnifying power, but if such spectacles are used as magnifiers by persons having natural eyesight to enable them to see objects placed at, say, four or five inches only from the eye, a considerable strain on the sight is perceptible.

Now according to my Invention, I make a binocular reading glass or

magnifier by dividing an achromatic lense into two equal parts, and mounting the two parts in a frame at a short distance apart, but without in other respects altering the relative positions of the parts, except that I prefer to incline each part outwards to some extent, so that the foci of the two parts may coincide.

Reading glasses thus constructed may be used without any strain to the eye being apparent; they are also much more readily constructed and produce less distortion than a single lense of sufficient size to be used simultaneously with both eyes; these advantages become very apparent when the lense is of short focal length, in which case the constructing a single lens of sufficient size becomes practically impossible.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Richard Beck in the Great Seal Patent Office on the 18th May 1863.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, RICHARD BECK, of Peartree Cottage, Upper Holloway, in the County of Middlesex, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighteenth day of November, in the year of our Lord One thousand eight hundred and sixty-two, in the twenty-sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Richard Beck, Her special licence that I, the said Richard Beck, my executors, administrators, and assigns, or such others as I, the said Richard Beck, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN READING GLASSES AND MAGNIFIERS, TO BE SIMULTANEOUSLY USED WITH BOTH EYES," upon the condition (amongst others) that I, the said Richard Beck, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

Beck's Improvements in Reading Glasses, &c.

NOW KNOW YE, that I, the said Richard Beck, do hereby declare the nature of the said Invention, and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement thereof, that is to say:—

This Invention has for its object improvements in reading glasses and magnifiers to be used simultaneously with both eyes.

Heretofore lenses have frequently been made of such a size that a person can see through them with both eyes simultaneously; but these are massive and expensive. Spectacles have also been made with lenses of considerable magnifying power, but if such spectacles are used as magnifiers by persons having natural eyesight to enable them to see objects placed at, say, four or five inches only from the eye, a considerable strain on the sight is perceptible.

Now according to my Invention I make a binocular reading glass or magnifier by dividing a lens into two equal parts, and mounting the two parts at a short distance apart in a frame, but without in other respects altering the relative positions of the parts, except that with the highest powers I prefer to incline each part outwards to some extent, so that the axis of each half lens may be inclined in the direction of the object.

Reading glasses thus constructed may be used without any strain to the eye being apparent; they are also much more readily constructed and produce less distortion than a single lens of sufficient size to be used simultaneously with both eyes. These advantages become very apparent when the lens is of short focal length, in which case the constructing a single lens of sufficient size becomes practically impossible.

Figure 1 of the Drawings hereunto annexed shews a plan view of a reading glass constructed in the manner I prefer for carrying out my Invention; and Figure 2 shews a longitudinal section of the same.

a, a^1, are the two halves of a lens, by preference achromatic, each of which is mounted in a frame. The frame b, in which the half a of the lens is mounted, has a handle c connected to it; the other frame b^1, in which the half a^1 of the lens is mounted, has a rod projecting from it, which fits within a tube d carried by the frame b, the two halves of the lens can thus be set at different distances apart to suit the distance between the eyes of the person using the glass, as the distance between the eyes of different persons varies considerably; this adjustment is, however, not necessary when the lens is of low power.

Figure 3 is a longitudinal section of a reading glass having the two halves of the lens set at an angle; this also is not necessary when the lens is of low power.

Beck's Improvements in Reading Glasses, &c.

By constructing reading glasses and magnifiers in the manner herein described, it is not necessary when looking through them at an object near to the eyes to direct or converge the eyes upon the object, as is the case when the eyes look through the centres of two whole lenses set at a distance apart from each other. The strain upon the muscles of the eyes, which results from causing them to converge upon an object nearer to them than the distance of natural vision is thus obviated.

In witness whereof, I, the said Richard Beck, have hereunto set my hand and seal, this Sixteenth day of May, in the year of our Lord One thousand eight hundred and sixty-three.

RICHARD BECK. (L.S.)

LONDON:
Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1863.